REMARKS

Claims 1-4, 6, 8, 10, 11, 13-17 and 19-21 currently appear in this application. The Office Action of December 27, 2007, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicant respectfully requests favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

Claims 1, 3, 4, 6, 8 and 10 are rejected under 35 U.S.C. 102(a) as being anticipated by Biletch et al., U.S. 4,772,667, hereinafter Biletch'667. Claims 1, 3, 4, 6, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Biletch et al., U.S. 4,680,337, hereinafter Biletch'337.

These rejections are respectfully traversed. Claim 1, and thus the claims dependent therefrom, has been amended to incorporate the main chemical and physical properties recited in claim 12, which has not been rejected as anticipated by either Biletch patent, for the random copolymer. These properties are extremely important in order to make it possible to use the random copolymer with block copolymers to prevent the resulting mixture from exhibiting the melt fracture phenomenon described in the specification at page 5, lines 25-31.

The main difference between the presently claimed copolymer and the teachings of the Biletch patents is that the herein claimed random copolymer is formed from only three components, each component being in a very specific weight concentration. In addition, the random copolymer claimed herein has very specific chemical and physical properties that are required to conduct a co-extrusion of the random copolymer with a block copolymer (rubber) so as to obtain a mixture as claimed in claim 13 that does not exhibit the melt fracture phenomenon during extrusion.

The random copolymer claimed herein is obtained by a two stage polymerization. The first stage of the polymerization is performed in a continuous agitating reactor. The second stage is performed in a tubular reactor. Both Biletch patents disclose that the copolymer can be prepared by either bulk or suspension polymerization. In Biletch, the feed to produce the disclosed polymer contains:

(a) a styreninc monomer;

(b) a butyl acrylate monomer;

(c) methyl methacrylate monomer **and a block copolymer**.

There is nothing in either Biletch patent that discloses a polymer having the composition and the properties of the random copolymer claimed herein. Accordingly, neither Biletch patent can anticipate the random copolymer claimed

herein that is prepared according to the polymerization reaction claimed herein, in which **no block copolymer is included in the reaction mixture.** In this case, the particular method of polymerization produces a random copolymer having the properties claimed herein, which random copolymer does not include a block copolymer.

Claims 1-4, 6, 8 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Morita et al., U.S. 6,310,148.

This rejection is respectfully traversed. Morita does not disclose a random copolymer formed by three components, nor does Morita disclose a mixture obtained from the block copolymer when the mixture is used for obtaining sheets, films or laminates that do not have melt fracture. Morita discloses a styrene resin that is obtained by polymerizing a homopolymer. The styrene resin comprises:

(a) conjugated diene, or a styrene copolymer of a diene monomer;

(b) a styrene monomer; and

(c) a methacrylic acid alkyl ester.

The polymerization of the above components is conducted so as to obtain the specific morphology shown in Figure 2 of Morita. This is not at all the same as the random

copolymer claimed herein, nor the polymeric mixture obtained with the copolymer claimed herein.

Morita does not anticipate the random copolymer of the present application neither a polymer mixture formed by said copolymer with a block copolymer. In other words, ***there is not a direct comparison basis between the block copolymer of the instant application and Morita's product.***

Now, after having analyzed the composition used in Example 5 of Morita, it can be appreciated that there are differences in the weight percentage used by Morita for the alkyl methacrylate monomer and the block copolymer, see Table I.

TABLE I

PATENT APPLICATION 10/560,929	EXAMPLE 5 (MORITA)
CLAIM 13.- A polymer mixture comprising *from 1-75% by weight of the random copolymer of claim 1,* *a) at least one vinyl aromatic monomer at a strength ranging from 75% to 95% by weight…,* *b) at least one alkyl methacrylate monomer at a strength of up to 15% by weight…* *c) at least one alkyl acrylate monomer at a strength of up to 25% by weight* *d) from 25 a 99 % by weight of at least a diblock or triblock copolymer*	

Performing a percentage conversion , each component a)-c) is present in claim 13 with the following weight percentage	
*a) from **0.75 a 71.25** % by weight of at least one vinyl aromatic monomer*	*a) 83 % of styrene)*
*b) up to **11.25** % by weight of at least one alkyl methacrylate monomer*	***b) 15% of methyl methacrylate***
*c) up to **18.75** % by weight of at least one alkyl acrylate monomer*	*c) 2% of butyl acrylate*
*d) from **25 a 99** % by weight of at least a diblock or triblock copolymer*	***d) 6.4% of a first styrene-butadiene copolymer and 1.6% of a second styrene-butadiene copolymer*** ***TOTAL 8%***
	e) 10 parts of ethyl benzene

From Tables I and II, it can be seen two differences, first one is that the previous art patents do not anticipate the random copolymer; the second one is that the block copolymer (rubber) amount used in the prior art documents is less than that used in the applicant's invention. **Finally, the present invention has a good elongation range as it can be noted from table 4 of the instant application; elongation is a key factor for extrusion.**

It is noted that Biletch and Morita teach products using monomers similar to those used in the instant application. However, as claimed herein, three of those

monomers are randomly copolymerized before being mixed with a block copolymer in order to obtain a polymer mixture that can readily be used to manufacture transparent extruded products.

Claims 13-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biletch '667 in view of Toya et al., U.S. 6,107,411.

As has been discussed *supra*, Biletch does not anticipate the presently claimed polymer mixture, which is a **mixture** of a random copolymer with a block copolymer Biletch discloses a copolymer made by co-polymerizing a styrenic monomer, butyl acrylate, methyl methacrylate **and a block copolymer**. This is not at all the same as the polymer mixture claimed herein. Comparing the composition of the polymer mixture of claim 13 with the teachings of Biletch, one can see that there is a difference in the weight percentage used for the diblock or triblock copolymer rubber, as shown in Table II.

TABLE II

PATENT APPLICATION 10/560,929	**PATENTS US 4,680,337 and 4,772,667 (Biletch)**
CLAIM 13.- A polymer mixture comprising *from 1-75% by weight of the random copolymer of claim 1:*	

a) at least one vinyl aromatic monomer at a strength ranging from 75% to 95% by weight...; *b) at least one alkyl methacrylate monomer at a strength of up to 15% by weight; and,* *c) at least one alkyl acrylate monomer at a strength of up to 25% by weight* *d) from 25 a 99 % by weight of at least a diblock or triblock copolymer*	
Performing a percentage conversion, each component a)-c) is present in claim 13 with the following weight percentage	
*a) from **0.75 a 71.25** % by weight of at least one vinyl aromatic monomer*	*a) from **25 to 75**% by weight of styrene* *(column 4, lines 20-25)*
*b) up to **11.25** % by weight of at least one alkyl methacrylate monomer*	*b) from **10 to 50** % by weight of methyl methacrylate (column 4, lines 28-30)*
*c) up to **18.75** % by weight of at least one alkyl acrylate monomer*	*c) from **7 to 30** % by weight of butyl acrylate (column 4, lines 26-27)*
*d) from **25 a 99** % by weight of at*	***d) from 2 to 20 % by weight***

least a diblock or triblock copolymer	***(column 4, line 31)***

Taking the above into consideration, a percentage difference for component d) (diblock copolymer) is present between the instant application and Biletch's teachings. For the present invention, the fact of use more than 25% by weight of component d) and up to 75% by weight of the random copolymer is very important in order to obtain a polymer mixture free of the melt fracture phenomenon when the mixture is processed by extrusion. Therefore, the preamble of amended claim 13 incorporates this limitation concerning the purpose of the polymer mixture.

However, besides this difference concerning compositions, the polymer mixture of the present application and the Biletch's product are morphologically distinct each other, please see Figures 1 and 2.

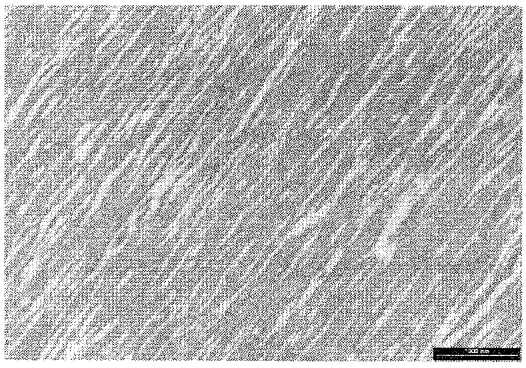

FIGURE 1, Morphology of vast domains in the shape of layers (claim 13)

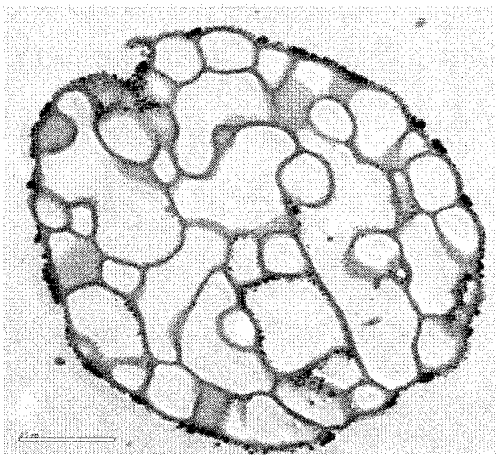

FIGURE 2, "Salami" morphology of Biletch's Products

Claims 13-17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biletch '337 in view of Toya.

This rejection is respectfully traversed. The melt fracture of prior art polymer compositions can be solved by the polymers claimed herein, in which a polymer **mixture** is obtained from a block copolymer and a random copolymer, the latter being obtained by a two stage polymerization.

The mixture obtained in the present claims makes it possible to produce laminates and films by extrusion, which laminates and films have a thickness of from about 0.254 to 2.032 mm. The laminates of films manufactured with this composition have a good elongation and excellent surface and optical properties. The laminates are ideal for thermoforming processes in order to produce blister packages.

Toya discloses manufacture of laminates having a particular average molecular weight ratio between a vinyl aromatic hydrocarbon and a conjugated diene. The laminates obtained by Toya are very thin, from about 10-300 microns, which are not appropriate for manufacturing thermoformable laminates for blister packages.

As noted above, neither Biletch nor Morita discloses a random copolymer previously obtained, nor does either of Biletch or Morita suggest a mixture of a random copolymer with a block copolymer.

Claims 13-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita in view of Toya.

This rejection is respectfully traversed. There is no suggestion in Morita of a mixture of a random copolymer with a block polymer. There is no suggestion in the combination of Morita and Toya of first obtaining a random copolymer and then mixing the random copolymer with a block copolymer. Therefore, it would not be obvious to produce a polymer mixture from the random copolymer.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Biletch'667 in view of Toya and Kanno et al., U.S. 6,153,698.

This rejection is respectfully traversed. As noted above, neither Biletch nor Toys discloses or suggests the

random copolymers or their incorporation into a polymer mixture. Kanno adds nothing to the combination of Biletch'667 and Toya, as Lanno combines powdered silicone and a modified styrene-based resin compounds in order to obtain great impact resistance. Even though Kanno discloses blister packages, these packages are obtained form a composition having totally different components from the herein claimed polymer mixtures.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Biletch'337 in view of Toya and Kanno.

This rejection is respectfully traversed. As noted above, Biletch'337 discloses a **copolymer** of a styrene monomer, butyl acrylate, methyl methacrylate **and a block copolymer**. What is claimed in the present application is a mixture of a random copolymer with a block copolymer. Therefore, even though Kanno discloses polymers for us in producing blister packages, this disclosure is immaterial, because there is no suggestion in any of the cited patents of substituting the herein claimed **mixture** for the **copolymer** of Biletch.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morita in view of Toya and Kanno.

This rejection is respectfully traversed. Neither Morita nor Toya discloses the polymer mixtures claimed herein. Morita only discloses bulk polymerizing a mixed solution of a homopolymer of a diene monomer of a copolymer of a styrene

monomer and a diene monomer, a copolymer of a styrene monomer and a diene monomer; a styrene monomer; and a methacrylic acid ester. Toya discloses a block copolymer composition comprising a vinyl aromatic hydrocarbon and a conjugated diene, but this block copolymer is not mixed with a styrene/acrylate/methacrylate random copolymer. There is no disclosure of mixing these copolymer together to form a polymer mixture suitable for producing blister packages. Kanno adds nothing to the combination of Morita and Toya because Kanno uses an entirely different kind of styrene resin which requires the presence of silicone powder, and there is neither disclosure nor suggestion of mixing these styrene-based resins with a block copolymer. In Morita, the rubber or other flexible material is not a mixture of two polymers but are particles of flexible material dispersed in a matrix of the styrene-based resin.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant

By: /Anne M. Kornbau/
Anne M. Kornbau
Registration No. 25,884

AMK:srd
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528
G:\BN\B\bece\Montiel-Ortiz1\pto\2008-03-26Amendment.doc